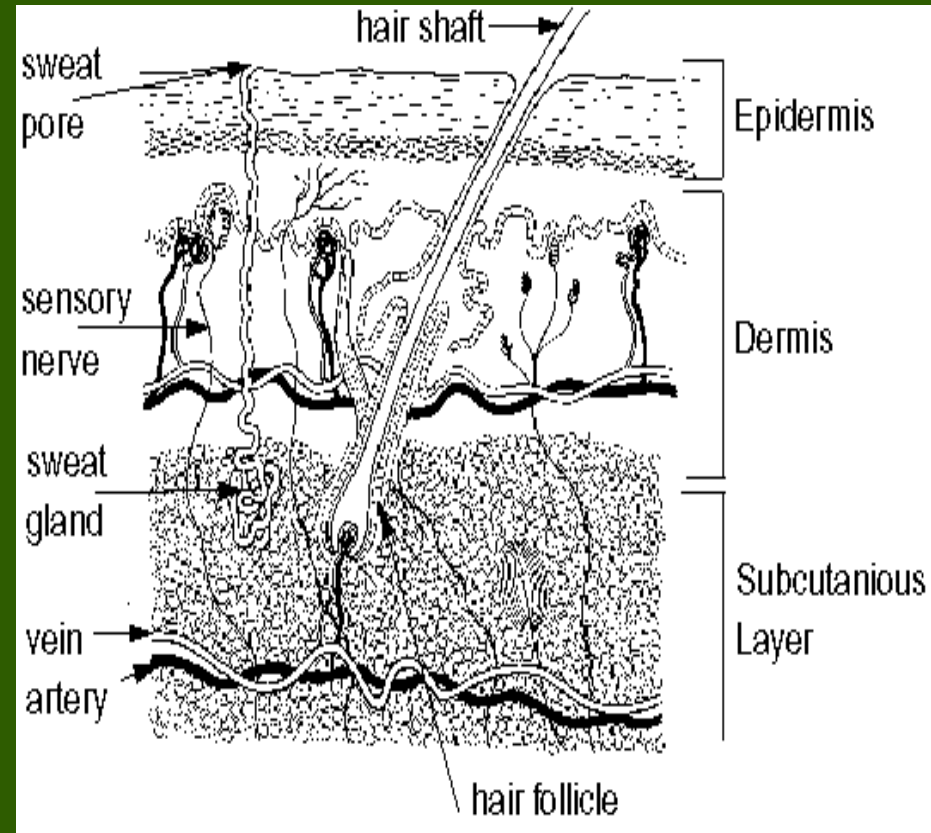


Organ Systems

The Pieces That Make Up the
Human Machine

Integumentary System

- **Organs in System:** Skin, hair, nails, sweat glands, sebaceous glands
- **Function:** Protection, regulation of body temperature, synthesis of vitamin D



Skeletal System

- **Organs in System:** Bones, tendons, ligaments, cartilage
- **Function:** Support, protection, movement, calcium ion storage, hematopoiesis



Muscular System

- **Organs in System:**
Skeletal muscles
- **Functions:**
Movement, heat production



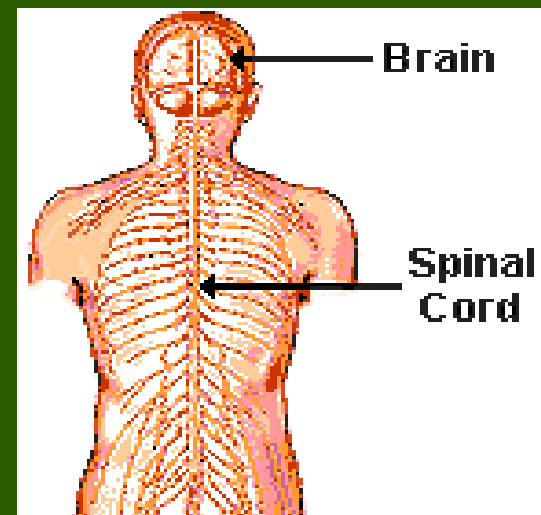
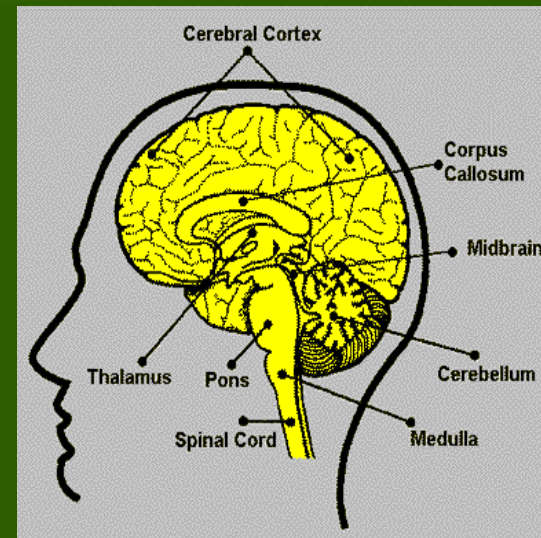
Nervous System

- **Organs in System:**

Brain, spinal cord, nerves

- **Function:**

Coordination of body parts, control, communication



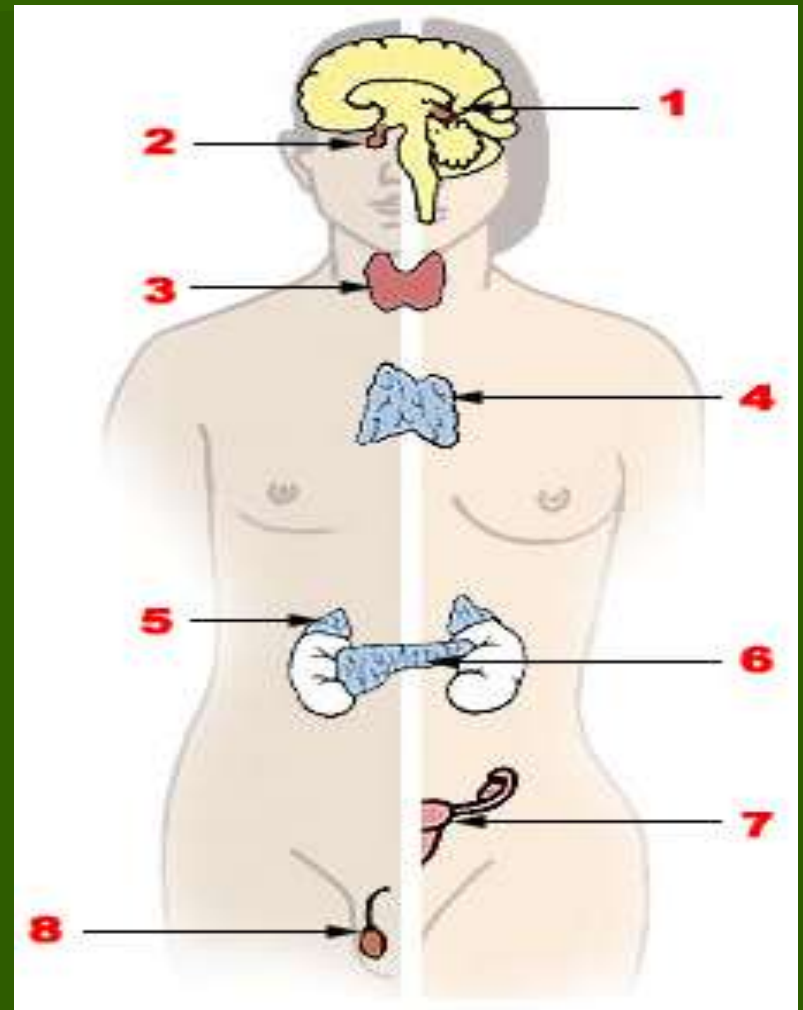
Endocrine System

- **Organs in System:**

Endocrine glands which secrete hormones

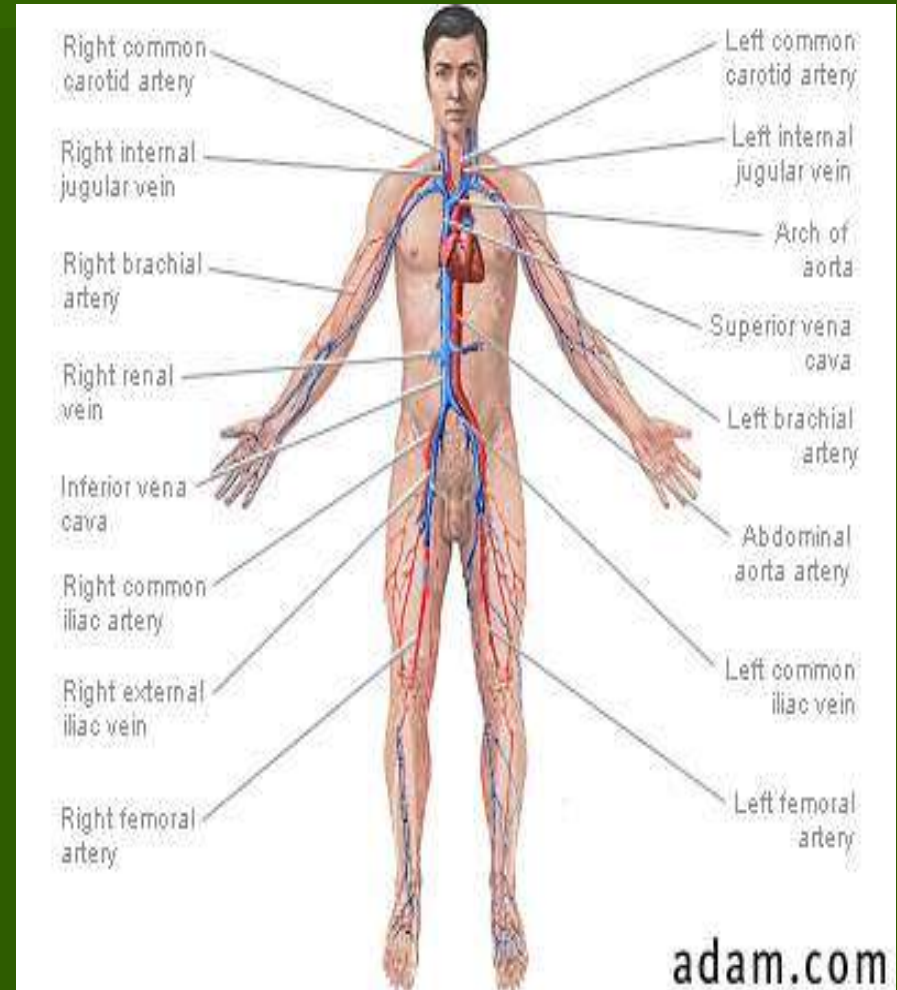
- **Function:**

Maintenance of homeostasis



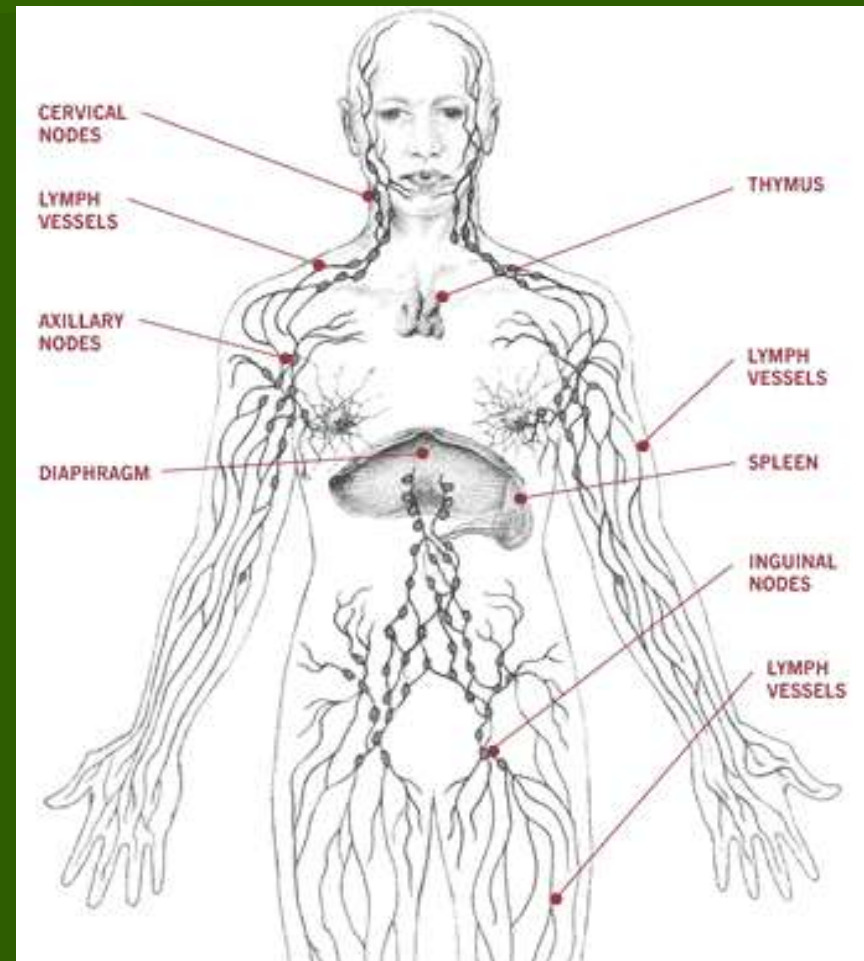
Cardiovascular System

- **Organs in System:**
heart, blood vessels
- **Functions:**
transportation of
nutrients, waste,
oxygen and carbon
dioxide



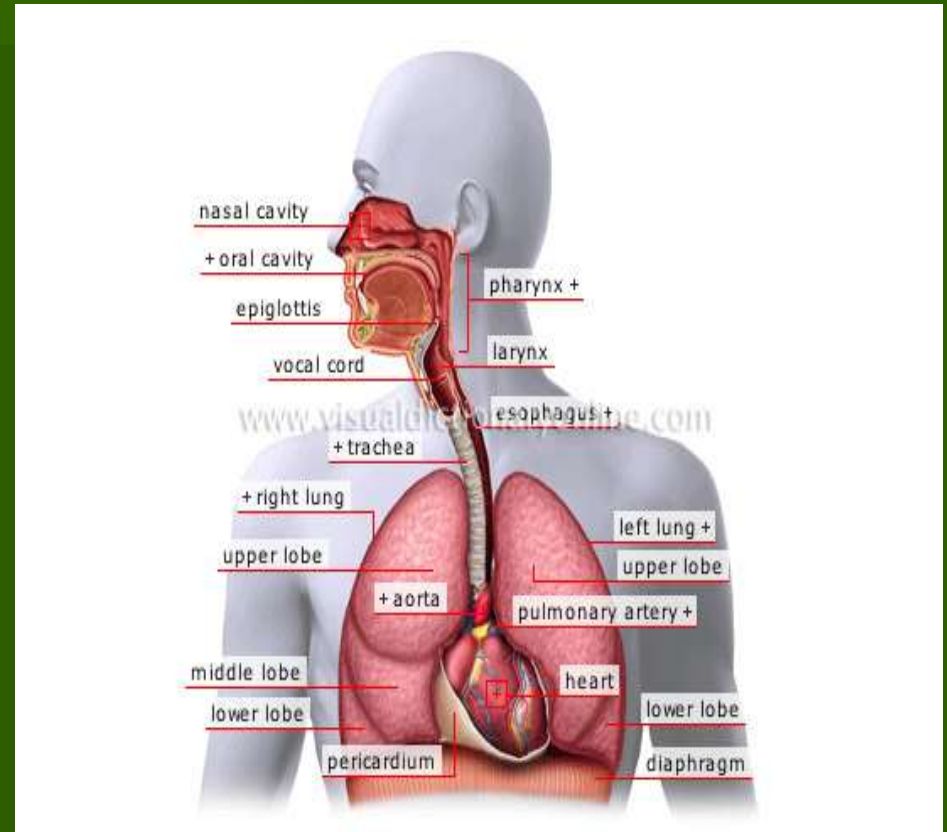
Lymphatic System

- **Organs in System:** lymph nodes, thymus and spleen
- **Functions:** fighting infection



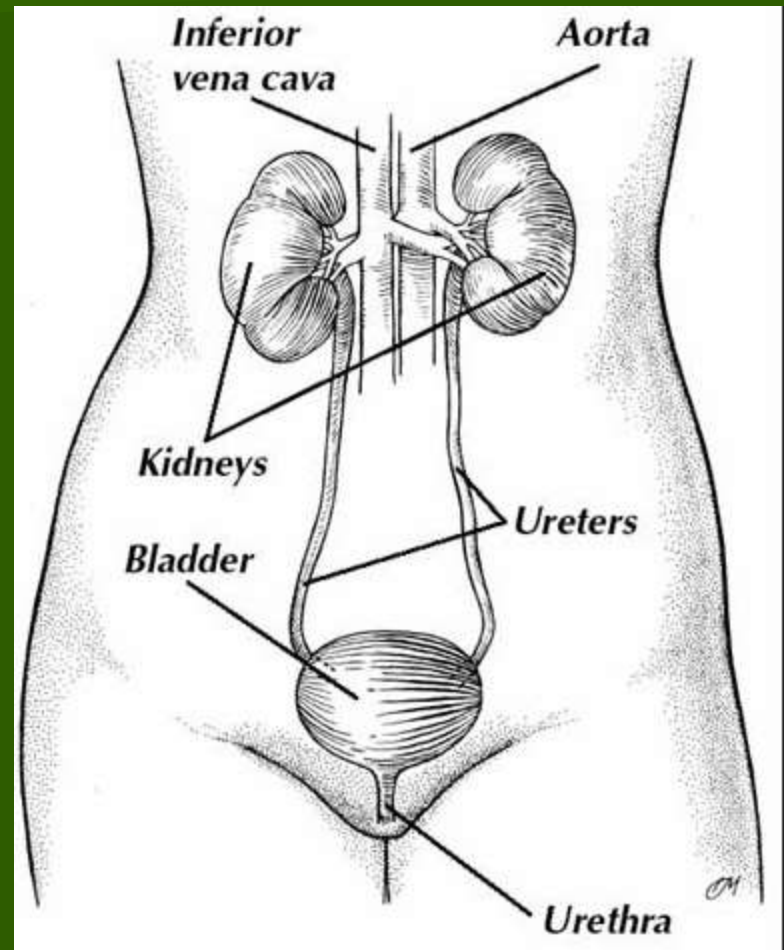
Respiratory System

- **Organs in System:** Oral cavity, nose, nasal cavity, pharynx, larynx, trachea, bronchial tubes within lungs, alveoli
- **Functions:** Exchange gases (oxygen and carbon dioxide), maintenance of blood pH and electrolytes



Urinary System

- **Organs in System:** Kidneys, ureters, urinary bladder, urethra
- **Functions:** Removal of metabolic waste from blood, maintenance of blood pH and electrolytes

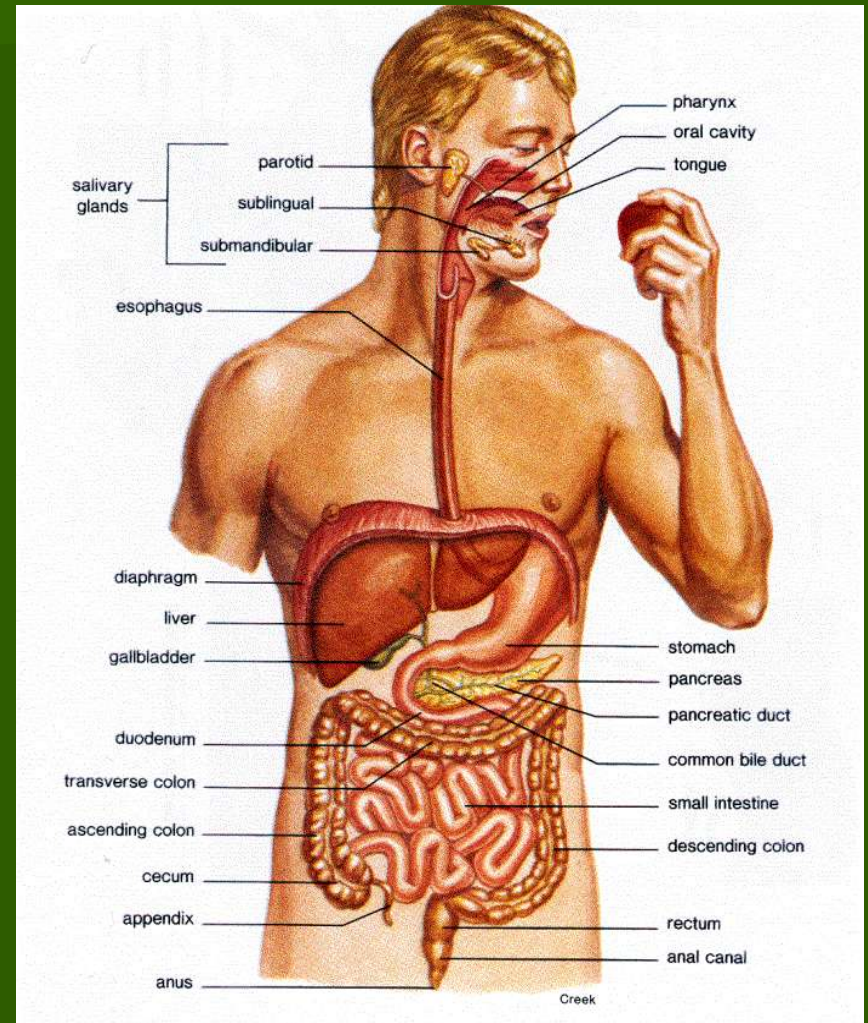


Digestive System

■ Organs in System:

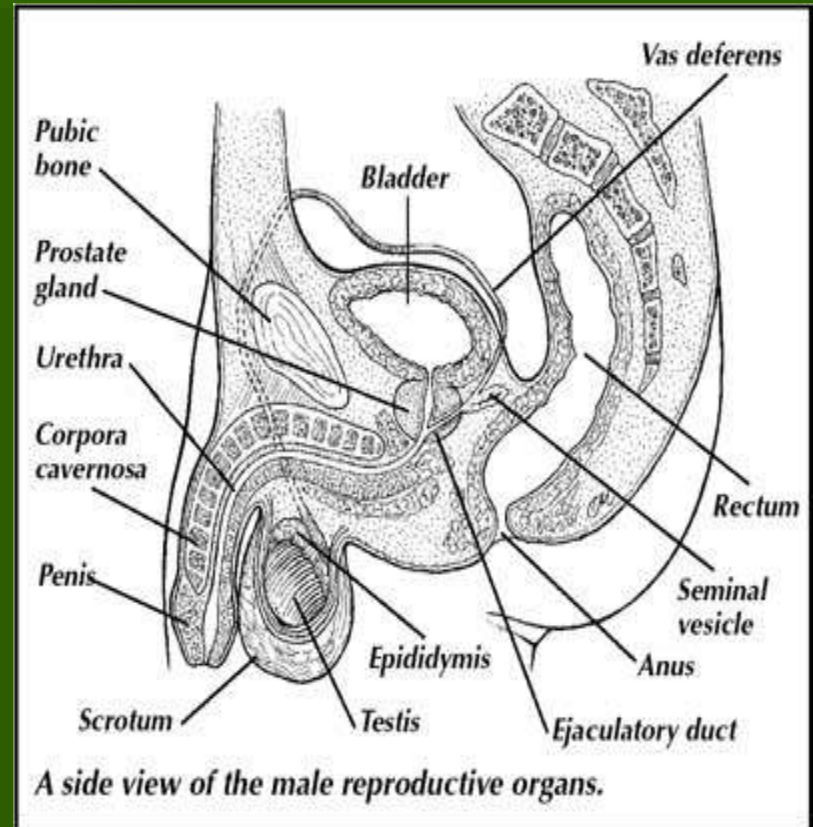
Mouth, pharynx, esophagus, stomach, small and large intestine, salivary glands, liver, pancreas, gall bladder

■ Functions: Breakdown of food into substances that can be absorbed (for energy)



Reproductive System

- **Organs in System:**
Male: testes, epididymis, vas deferens, prostate, seminal vesicle, bulbourethral glands, urethra, penis and scrotum
- **Functions:** Production, maintenance and transport of gametes; production of sex hormones



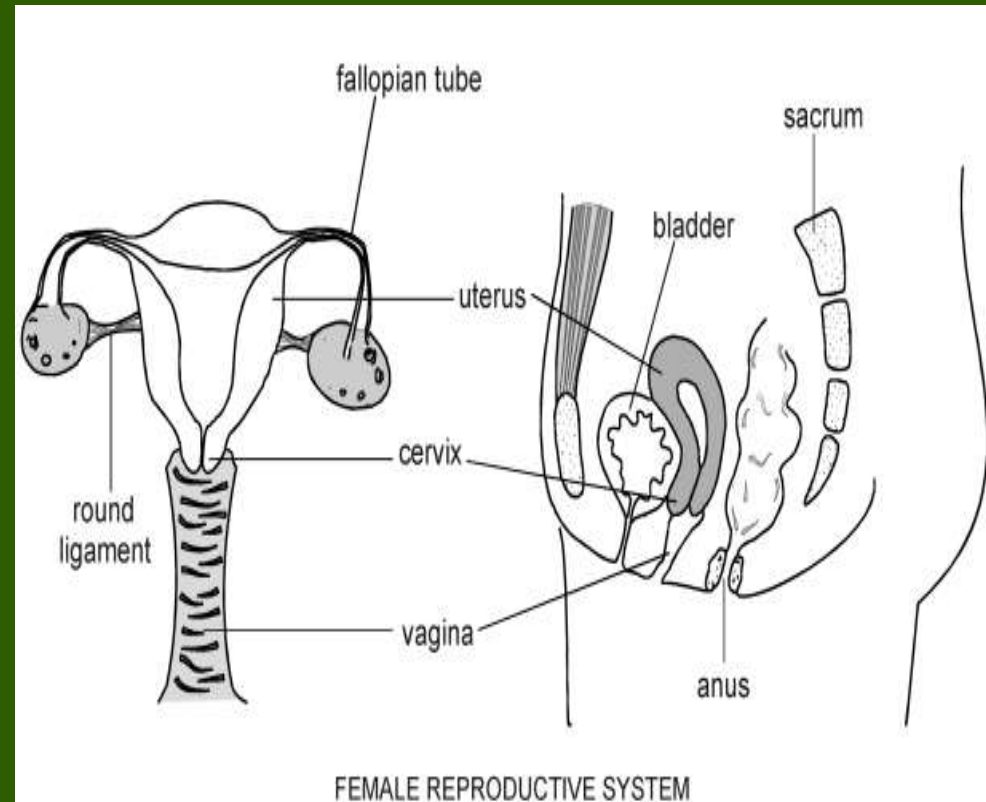
Reproductive System (cont)

■ Organs in System:

Female: ovaries, fallopian tubes, uterus, cervix, vagina, labia, clitoris

■ Functions:

Same as Previous Slide



Body Regions, Body Cavities and Organ System Overview

Body Orientation and Direction

- ***Superior/Inferior*** means above/below.
- ***Anterior/Posterior*** means toward the front surface of the body/toward the back surface of the body.
- ***Medial/Lateral*** means toward the body midline/away from the body midline.

Body Orientation and Direction

- ***Proximal/Distal*** means nearer to the body trunk or attachment site/farther from the body trunk or attachment site.
- ***Superficial/Deep*** means near the body surface/away from the body surface.

Body Orientation and Direction

Practice Questions

- 1.) The fingers are _____ to the elbow.
- 2.) The abdomen is on the _____ surface of the body.
- 3.) The breastbone is _____ to the ribs.
- 4.) A laceration of the skin is a _____ injury.
- 5.) The head is _____ to the neck.

Body Planes or Sections

- In anatomy the body is divided into planes.
- These planes are used as reference points for anatomical study.
- The planes and/or sections of the body are:
 - 1.) Median or Midsagittal
 - 2.) Frontal or Coronal
 - 3.) Transverse or Cross

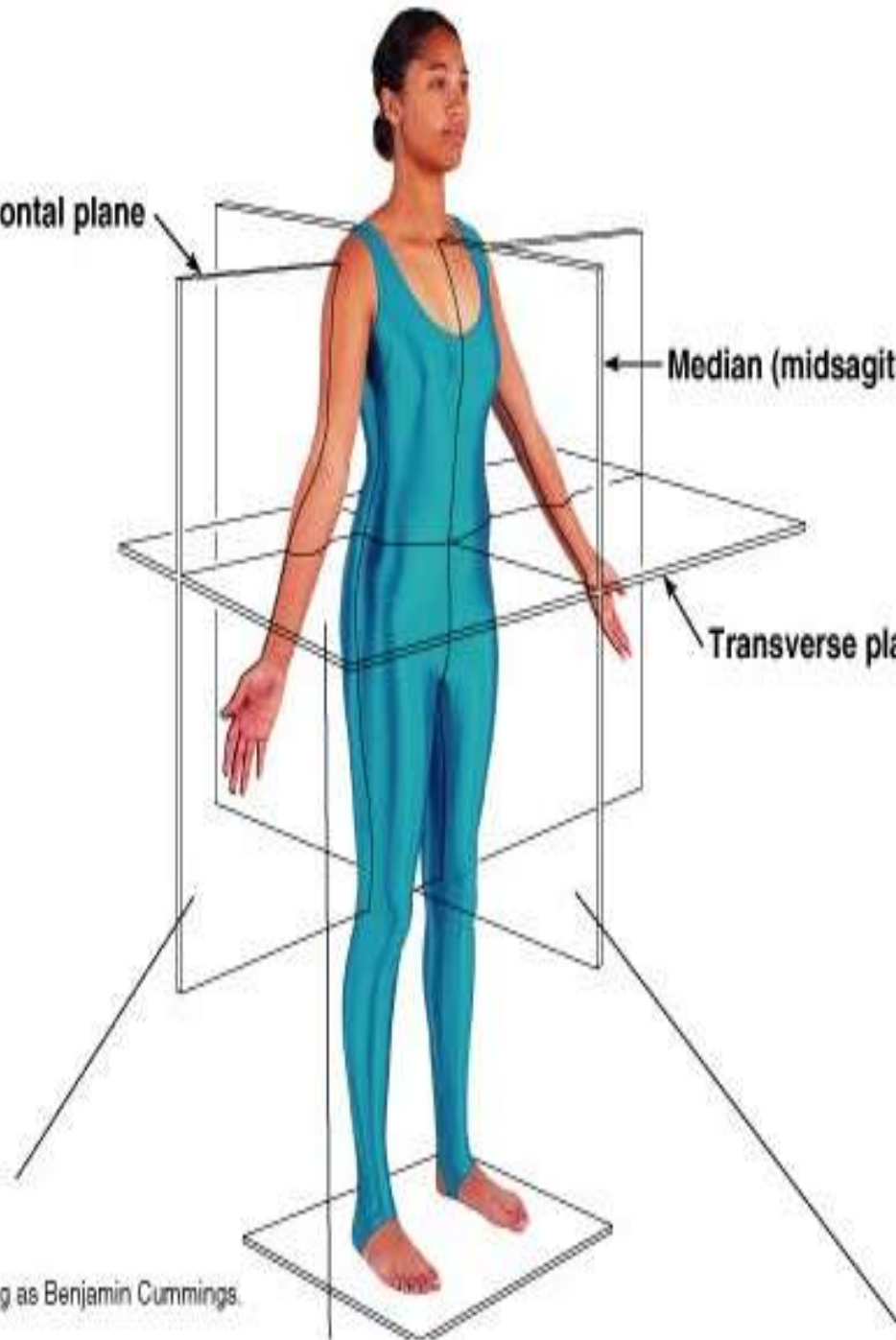
Body Planes or Sections

- The ***median or midsagittal section*** is a cut made along the longitudinal plane of the body dividing it into left and right parts
- The ***frontal or coronal section*** is a cut made along the body along the lengthwise plane that divides the body into anterior and posterior sections
- The ***transverse or cross section*** is a cut made along the horizontal plane that divides the body into superior and inferior sections

Frontal plane

Median (midsagittal) plane

Transverse plane



Anterior Body Landmarks

- ***Abdominal***, anterior body trunk.
- ***Antebrachil***, forearm.
- ***Antecubital***, anterior surface of the elbow
- ***Axillary***, armpit.
- ***Brachial***, upper arm (bicep).
- ***Buccal***, cheek region.
- ***Carpal***, wrist.
- ***Cervical***, neck region.
- ***Coxal***, hip
- ***Crural***, leg

Anterior Body Landmarks

- ***Deltoid***, roundness of shoulder; caused by deltoid muscle.
- ***Digital***, fingers and toes.
- ***Femoral***, thigh.
- ***Frontal***, forehead.
- ***Inguinal***, groin.
- ***Mammary***, breast.
- ***Manus***, hand.
- ***Mental***, chin.
- ***Nasal***, nose.

Anterior Body Landmarks

- ***Oral***, mouth.
- ***Orbital***, eye region.
- ***Palmar***, Palm of hand.
- ***Patellar***, anterior knee (knee cap).
- ***Pedal***, foot.
- ***Pelvic***, pelvis...hips.
- ***Peroneal***, side of leg.
- ***Pollex***, thumb.
- ***Pubic***, genital region.

Anterior Body Landmarks

- ***Sternal***, breast bone.
- ***Tarsal***, ankle.
- ***Thoracic***, chest.
- ***Umbilical***, naval...belly button.

Posterior Body Landmarks

- ***Acromial***, point of shoulder.
- ***Calcaneal***, heel of foot.
- ***Cephalic***, head.
- ***Dorsal***, back.
- ***Gluteal***, backside.
- ***Lumbar***, lower back.
- ***Occipital***, posterior base of skull.
- ***Olecranal***, *posterior of elbow*.
- ***Otic***, ear.

Posterior Body Landmarks

- ***Perineal***, region between anus and external genitalia.
- ***Plantar***, sole of foot.
- ***Popliteal***, back of knee.
- ***Sarcral***, between the hips.
- ***Scapular***, shoulder blades.
- ***Sural***, calves.
- ***Vertebral***, spinal column.

Body Cavities

- The 2 Main Cavities:

1. Dorsal Body Cavity

- a. Cranial Cavity: brain and skull
- b. Spinal Cavity: spinal cord and vertebral column

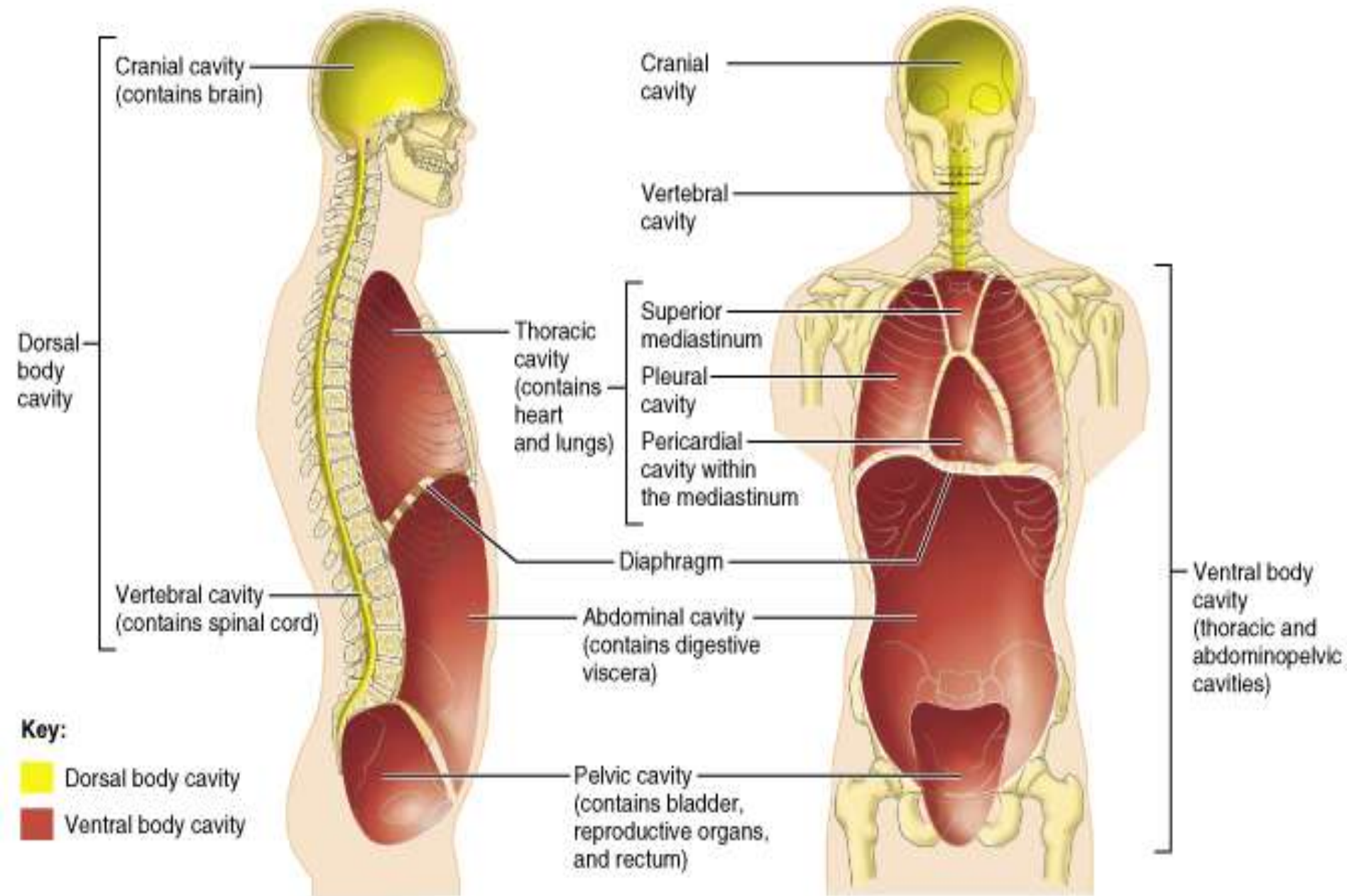
Body Cavities

2. Ventral Body Cavity

- a. Thoracic cavity contains Heart and Lungs (superior diaphragm)
- b. Abdominopelvic cavity contains inferior to diaphragm
 - superior abdominal contains stomach, intestines and liver
 - Inferior pelvic contains reproductive organs, bladder and rectum

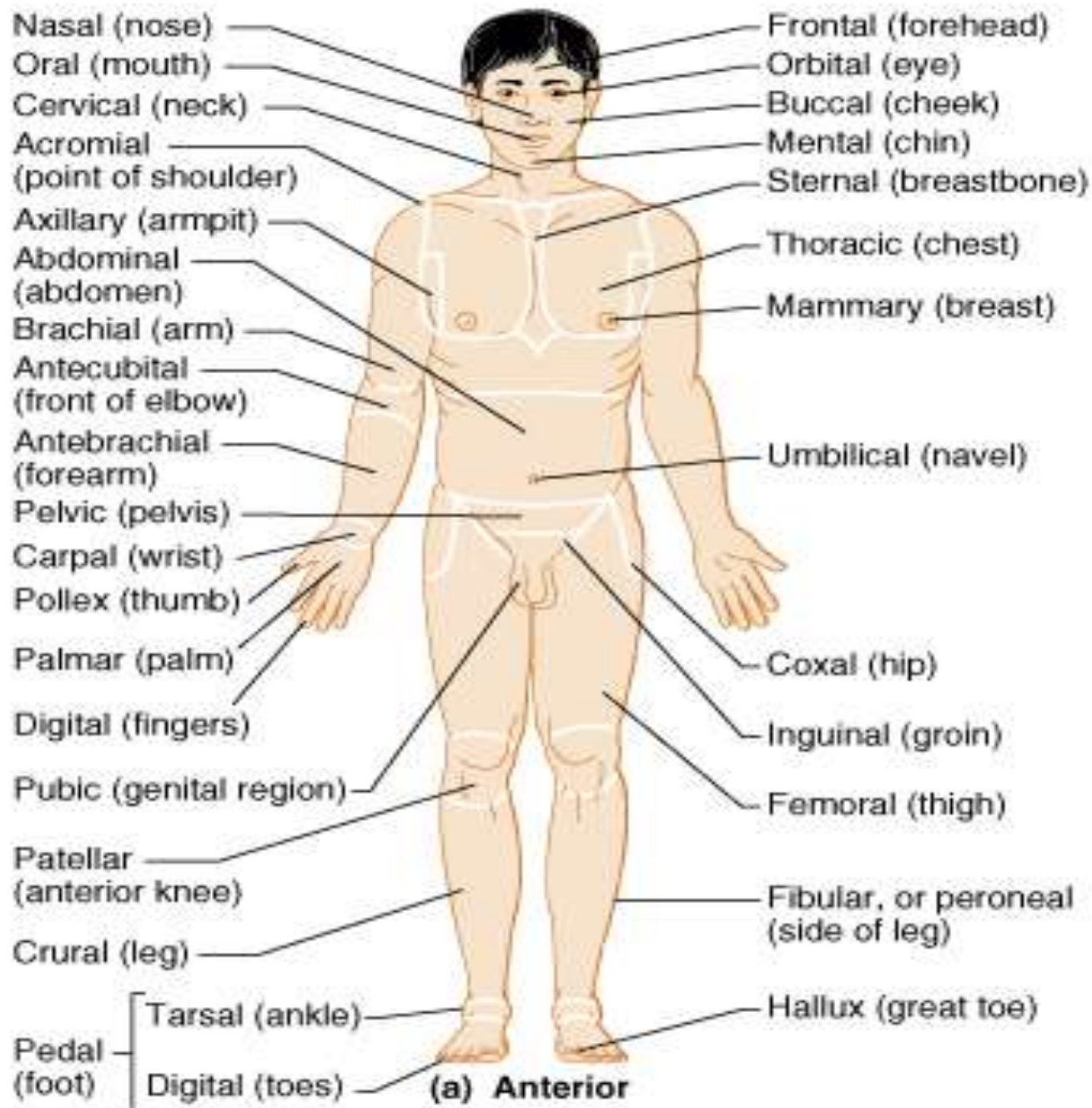
Body Regions/Cavities

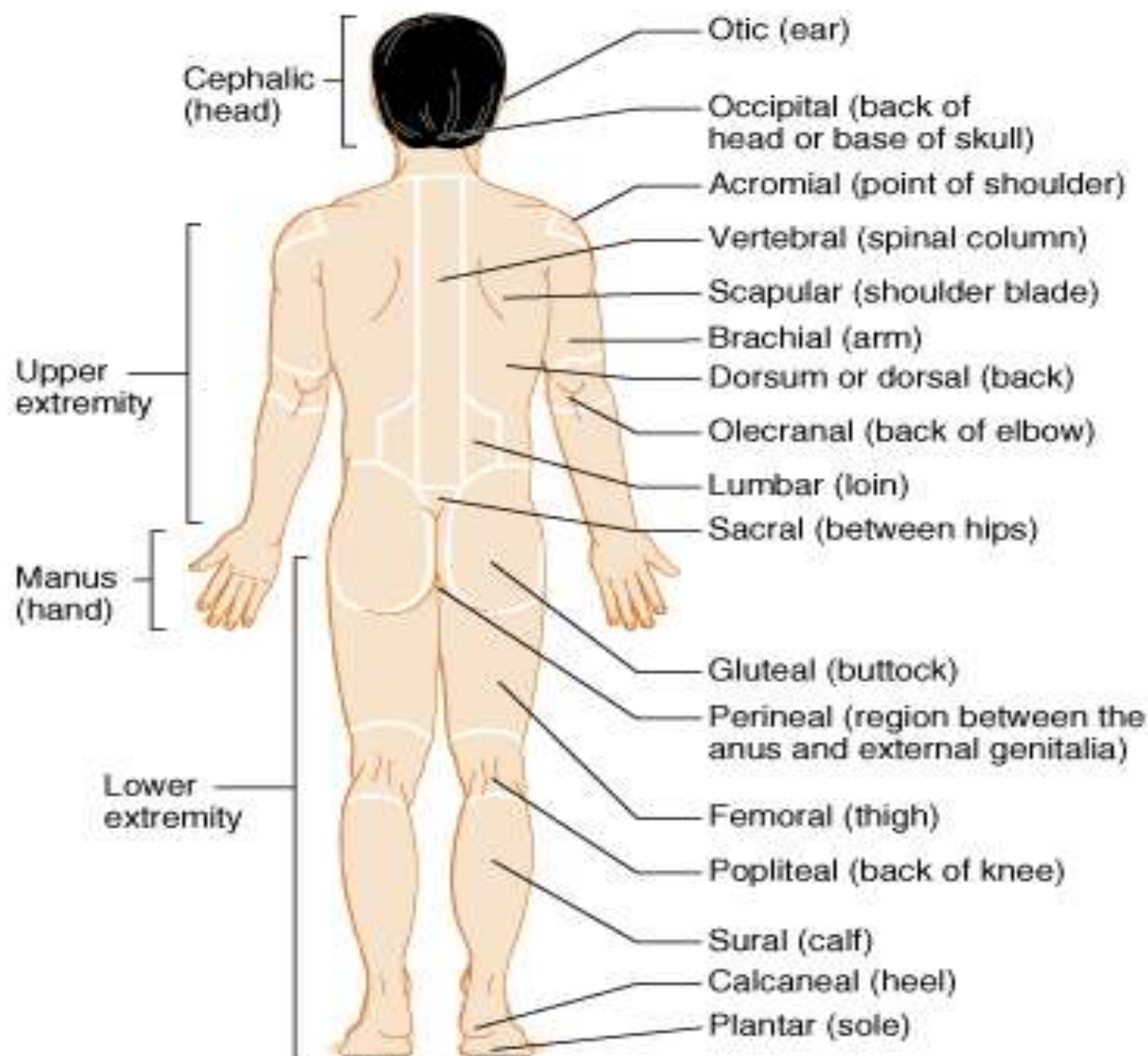
Study Guides



(a) Lateral view

(b) Anterior view





(b) Posterior